Amendments to the Claims

The following listing of claims replaces all prior listings, and all prior versions, of claims in the application.

Listing of Claims

1. (currently amended) A process for producing a polyamide composite material comprising a polyamide A1, a polyamide A2, each being produced by polycondensing a diamine component containing 70 mol% or higher of m-xylylenediamine with a dicarboxylic acid component containing 50 mol% or higher of a C_4 to C_{20} d,w-linear aliphatic dicarboxylic acid, and an organized clay B, by using a corotating intermeshing twin-screw extruder in which at least a feed section (a) with a feed port (a), a kneading section (a) having a high dispersive mixing capability, a feed section (b) with a feed port (b) and a kneading section (b) having a high distributive mixing capability are arranged in this order, the process comprising:

a step of feeding the polyamide A1 containing a phosphorus compound in an amount of 500 ppm or smaller in terms of phosphorus atom and having a relative viscosity of 1.1 to 4.7 and the organized clay B into the feed section (a) through the feed port (a);

a step of melt-kneading the polyamide A1 and the organized clay B substantially by dispersive mixing in the kneading section (a) to obtain a melt-knead product;

a step of transporting the melt-knead product from the kneading section (a) to the feed section (b), and simultaneously feeding the polyamide A2 having a relative viscosity of 2.0 to 4.7 into the feed section (b) through the

feed port (b), wherein the relative viscosity of the polyamide A1 is less than the relative viscosity of the polyamide A2; and

a step of melt-kneading the melt-knead product and the polyamide A2 each from the feed section (b) substantially by distributive mixing in the kneading section (b) to prepare the polyamide composite material.

2. (original) The process according to claim 1, comprising:

a step of transporting the polyamide A1 and the organized clay B towards a downstream end of the corotating intermeshing twin-screw extruder by a transport portion (a) of a screw provided to the extruder;

a step of melt-kneading the polyamide A1 and the clay B each from the feed section (a) by a portion of the screw comprising a group of elements having a high dispersive mixing capability to obtain the melt-knead product (a);

a step of transporting the melt-knead product (a) from the kneading section (a) and the polyamide A2 from the feed port (b) towards the downstream end of the extruder by a transport portion (b) of the screw;

a step of melt-kneading the melt-knead product (a) and the polyamide A2 each from the feed section (b) by a portion of the screw comprising a group of elements having a high distributive mixing capability to obtain a melt-knead product (b); and

a step of transporting the melt-knead product (b) towards the downstream end of the extruder by a transport portion (c) of the screw.

3. (original) The process according to claim 1, wherein the polyamide A1 and the organized clay B are melt-kneaded in the kneading section (a) by a screw having a high dispersive mixing capability which comprises at least

one element having a pressure-dropping function to allow the kneading section (a) to be filled with the polyamide A1 and the organized clay B, and at least one element selected from the group consisting of a kneading disk having a broad disk width and a rotor.

4. (original) The process according to claim 1, wherein the melt-knead product from the kneading section (a) and the polyamide A2 fed through the feed port (b) are melt-kneaded in the kneading section (b) by a screw having a high distributive mixing capability which comprises at least one element having a pressure-dropping function to allow the kneading section (b) to be filled with the melt-knead product and the polyamide A2, and at least one element selected from the group consisting of a kneading disk having a narrow disk width, a rotor, a notched flight disk and a mixing gear.

5. (currently amended) The process according to claim 3, wherein the element having the pressure-dropping function is ~~an~~ a reverse full-flight disk and/or a sealing disk.

6. (currently amended) The process according to claim 4, wherein the element having the pressure-dropping function is ~~an~~ a reverse full-flight disk and/or a sealing disk.

7. (original) The process according to claim 3, wherein at least a part of the kneading section (a) is provided with a kneading disk having a ratio W/D of 0.15 or higher wherein W is a width of the kneading disk and D is a screw diameter of the twin-screw extruder.

8. (original) The process according to claim 4, wherein at least a part of the kneading section (a) is provided with a kneading disk having a ratio

W/D of 0.15 or higher wherein W is a width of the kneading disk and D is a screw diameter of the twin-screw extruder.

9. (original) The process according to claim 2, wherein a length of the screw in each of the kneading sections (a) and (b) is 10 to 60% of an overall length of the screw.

10. (original) The process according to claim 1, wherein a melt-kneading temperature in the kneading sections (a) and (b) is equal to or higher than melting points of the polyamides A1 and A2, and simultaneously, equal to or lower than a temperature where the organized clay B loses its weight by 10% when measured by thermogravimetry according to JIS K-7120.

11. (original) The process according to claim 1, wherein a specific energy provided by the corotating intermeshing twin-screw extruder to the polyamides A1 and A2 and the organized clay B is 0.2 to 0.45 kWh/kg on average between the feed port (a) and the downward end of the extruder.

12. (original) The process according to claim 1, wherein the kneading is performed so that an overall residence time in the corotating intermeshing twin-screw extruder is 60 to 1200 s.

13. (original) The process according to claim 1, satisfying the following requirements:

$1 \leq X/Y \leq 8$, and

$1 \leq 100Y/(X + Y + Z) \leq 20$

wherein X is a weight (kg) of the polyamide A1 fed through the feed port (a); Y is a weight (kg) of the organized clay fed through the feed port (a); and Z is a weight (kg) of the polyamide A2 fed through the feed port (b).

14. (withdrawn) A polyamide composite material produced by the process as defined in claim 1.

15. (withdrawn) A packaging material made of the polyamide composite material as defined in claim 14.

16. (withdrawn) A packaging container made of the polyamide composite material as defined in claim 14.